



ARKANSAS
Department of Environmental Quality

October 28, 2009

CERTIFIED: 7009 0960 0000 7898 4144

Amec Geomatrix, Inc.
Attention: Kelly Beck, P.G.
3711 MoPac Expressway
Building One, Suite 100
Austin, Texas 78746-8012

RE: October 14, 2009 AMEC Responses to Feasibility Study (FS) for Cedar Chemical Company; EPA ID Number ARD990660649; AFIN 54-00068

Dear Ms. Beck:

The Arkansas Department of Environmental Quality – Hazardous Waste Division (ADEQ) is in receipt of the October 14, 2009 Response to Comments on the Cedar Chemical Company Feasibility Study (FS) report. ADEQ has reviewed the responses and have the following comments:

- Response to Item #1 Bullet #3:

Please clarify the statement, “Although some chemicals of concern (COCs) exceeded the MCL, we intend to manage off-site groundwater in such a way to limit migration and prevent exposure.” The ADEQ is concerned that monitored natural attenuation (MNA) is not a sufficient way to manage off-site groundwater as a means to limit migration.

Additionally, please indicate how AMEC proposes to implement Institutional controls in off-site areas.

- Response to Item #2:

Given the magnitude and significant concentrations of the COCs in the on-site perched groundwater, the ADEQ feels this is a continued source of contamination to the alluvial aquifer. Even though it is known that the source originated within the soils due to buried wastes and leaking units, this contamination has leached into the perched zone and continues to leach into the alluvial aquifer. With that being said, the ADEQ recommends that available technologies be reviewed for remediating low conductivity aquifers and propose a pilot test be conducted within the on-site Perched Zone. There are several enhanced MNA technologies available for low conductivity aquifers. The ADEQ suggests this pilot study be conducted in the area between Unit 1

and Unit 2 where TW-1 was installed and reported COC concentrations of 1-2, DCA, Dinoseb, Toluene, and Acetone at 10,000 ug/l, 5,400 ug/l, 210,000 ug/l, and 12,000 ug/l respectively.

Based on the ADEQ Interim Groundwater Policy and EPA OSWER Directive 9283.1-33 additional remedial technologies other than MNA should be evaluated with regard to the Alluvial Aquifer.

- Response to Item #3

Although it is agreed that removal of all residual contamination cannot practically be accomplished, clean up levels for the soil should be established and discussed within the FS.

Appendix A Responses to Comments

- Response to Comment #3:

Because of the elevated concentrations, arsenic should be included in the list of COCs.

- Response the Comment #4:

In order to prevent further contamination of the groundwater by the soil, consideration should be given to protection of groundwater screening for soils. The ADEQ is unclear, with the proposed remedies selected, with the intention to focus on groundwater restoration and exposure controls for the direct exposure scenarios for these media (i.e. alluvial and perched groundwater) when direct exposure risk-based concentrations (RBCs) were not calculated for this media and the ADEQ does not agree that MNA is a feasible groundwater restoration process. MNA is a passive; not an active remedy.

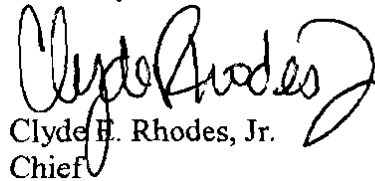
- Response to Comment #5:

Using institutional controls alone to limit exposure to perched groundwater is in conflict with EPA'OSWER Directive 9283.1-33. Additional remedial technologies should be evaluated within the FS.

ADEQ provided AMEC with a FS Guidance to be followed during the development of the Cedar FS. However, the FS does not adhere to the guidelines as discussed (e.g., more than one alternative discussed for each area of contamination; associated costs; long-term effectiveness; short-term effectiveness, etc.). Please amend the FS report to adhere to the terms of the Consent Administrative Order LIS 07-027 and the FS Guidance provided. The amended FS, including responses to the above listed NODs, should be submitted within thirty (30) days of receiving this letter.

If you have any questions or need additional information, please feel free to contact Tammie J. Hynum at (501) 682-0856 or hynum@adeq.state.ar.us or myself at (501) 682-0831 or rhodesc@adeq.state.ar.us.

Sincerely,



Clyde H. Rhodes, Jr.
Chief

Hazardous Waste Division

cc: Mark Hemingway (AMEC, 3711 S MoPac Expressway, Bldg. 1, Suite 100, Austin, Texas 78746-8012)
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ARKANSAS
Department of Environmental Quality

HAZARDOUS WASTE DIVISION ROUTING SLIP

October 28, 2009

Subject: Cedar Chemical

From: Jay Rich, Risk Assessment Supervisor

<u>Route in turn to:</u>	<u>Action Needed</u>	<u>Initials</u>	<u>Date</u>
JRich	<input checked="" type="checkbox"/> Concurrence <input checked="" type="checkbox"/> Review	JR	10-28-09
ACusher	<input checked="" type="checkbox"/> Concurrence <input checked="" type="checkbox"/> Review	AC	10/28/09
JRigg	<input checked="" type="checkbox"/> Concurrence <input checked="" type="checkbox"/> Review	JR	10/28/09
CMcDaniel	<input checked="" type="checkbox"/> Concurrence <input checked="" type="checkbox"/> Review	CM	10/28/09
CGreenway	<input checked="" type="checkbox"/> Concurrence <input checked="" type="checkbox"/> Review	CG	10/28/09
CRhodes	<input checked="" type="checkbox"/> Concurrence <input checked="" type="checkbox"/> Review	CR	10/28/09

***Note: Marking the Concurrence box indicates the individual agrees with the applicable text as it relates to their individual discipline and Work Section (e.g., Engineer; Risk Assessor; Geology; Compliance; Policy/Management), as applicable. Marking the Review box indicates the individual has read the document.**

DISPOSITION:

Return to Jay Rich; HWD (682-0869) for reproduction/distribution of copies, filing, and mailing

COMMENTS: